Ohio Farm Household
Longitudinal Study*

Department of Agricultural Economics
and Rural Sociology
The Ohio State University
ESO 1604, September 1, 1989

Ohio Farm Household Income and Financial Condition

The Ohio Farm Longitudinal Study surveyed a representative sample of farm operator households during 1987-1989. From March to May in each of the past three years, about 900 farmers have been contacted by telephone and asked to share information about their households and businesses. This report and others that follow will summarize information gathered in Spring 1989 and will compare this past year's (1988) performance with that in the previous two years.

Farm households in the sample were randomly selected from the population of households operating farms. That is, landlords and retired farmers who owned but did not operate farms were intentionally excluded from the study. Also excluded were rural residents who do not regard their unit as a farm, although it may have been defined as a farm by the Census.

This report focuses on farm household income and sources of that income. Generally, the findings reported here are that (a) for the "average" farm operator household, net farm income rose in 1988 despite drought conditions that plagued much of the state; (b) off-farm income also increased in 1988 and continued to be the primary income source for the average farm operator household; and (c) for households operating "commercial" farms, which produce two-thirds of the farm products, the farm business generated most of the household income and earned a reasonable rate of return for the capital invested in the business.

Categories of Farms

In this report, farm households are placed in three categories depending on the annual gross sales from their farm operations. In the first group are those households with less than $40,000 gross sales. These operations are numerous; nearly two-thirds of all Ohio farms are in this group. However, they account for only 15 percent of the farm products sold in the state. Their household income comes from non-farm sources, primarily off farm employment. These farms might be defined more accurately as "rural residences" than as farms. The second group includes farm households with gross sales of $40,000 to $99,999. Typically, these are "part-time farm operations." They comprise one-fifth of the farm operations and account for about one-fifth of the farm products in Ohio. The third group might be called "commercial farms." These households generate $100,000 or more in gross farm sales annually, most of these operators are fully employed on the farm, and most of the household income is from the farm. Only 17 percent of Ohio farms are in this group, yet they are responsible for producing nearly two-thirds of the farm product sales.

Because of the relatively large numbers of small farms, averages for all farms need to be interpreted with caution. Averages are strongly influenced by numerous "rural residences." Commercial farms, producing most of the state's agricultural output, are not well represented by these averages.

Net Farm Income

Net farm income is calculated by adding all farm receipts, subtracting expenses including depreciation, and adjusting for inventory changes. It is the return to all resources owned by the family that contribute to the farm operation. Net farm income showed slight improvement over the three years of the study and averaged $8,100 for all farms in 1988, up from

---

* The analysis of the Ohio Farm Household Longitudinal Study is supported by the Ohio Agricultural Research and Development Center and the U.S. Department of Agriculture, Economic Research Service. Authors are Lynn Forster, Tom Stout and Robert Munoz.

$7,300 in 1987 and $5,900 in 1986 (Table 1). Drought conditions threatened net farm income last year, but in the final analysis, lower crop yields and higher feed costs were more than offset by higher crop prices and larger Federal farm program payments.

For all farm households, non-farm income accounted for about three-fourths of household income in 1988. It averaged $26,700 in 1988 and brought the total household income up to $34,800, which was approximately the same as the average income for all households in the state. For the group of households with gross sales less than $40,000, net farm income averaged zero, and all household income came from off farm sources (Table 1).

However, for households operating commercial farms, income from the farm was the major source (72 percent) of income. These families, who are responsible for nearly two-thirds of the economic activity from farming, have a relatively small buffer of non-farm income to protect them from the vagaries of weather, export markets, federal monetary and fiscal policies, and federal farm programs.

Return on Assets

Probably the best indication of the economic success of farm businesses is the rate of return on farm assets. If this rate of return were comparable to that earned in other economic sectors, then farm households would be getting a reasonable rate of return for their capital investment. Over the entire post World War II period, the average total return to investments in U.S. farmland was 10.6 percent annually, which was slightly higher than the average return received in other investments. If this long term trend continues, farm investments will provide reasonably high rates of return. But returns can vary considerably from one year to the next. For example, returns to U.S. farmland were 21 percent in 1979 and -9 percent in 1984.

This return is computed from two components: operating return and change in asset values. The average Ohio farm household's operating returns have improved during the past three years from -3.4 percent in 1986 to 0.6 percent in 1988 (Table 2). In addition, farm assets appreciated about 5 percent each year, resulting in slightly positive total returns for the average farm household. So during 1986-88, the <u>average</u> farm household received returns on capital that were below the historic average in farming and below the average received in non-farm sectors. But for households operating commercial farms, operating returns were 5.1 percent in 1988 (little changed from the 4.4 and 5.8 percent returns in 1986 and 1987). Combining these operating returns with 5 percent farm asset appreciation, commercial farms realized rates of return in 1986-88 of 9 to 11 percent, which were comparable to both the historic average in farming and those received in non-farm sectors of the U.S. economy.

Farm Households' Balance Sheets

On December 31, 1988 the "average" farm household valued its owned assets at $396,000, reported debt of $52,000, and estimated its net worth (equity) to be $344,000 (Table 2). Over the three years of the study, the financial situation of the average farm household improved considerably. Operators estimate that assets increased nearly 21 percent in the last two years, debts declined by 12 percent, and household equity increased by about 29 percent. Much of the improved financial situation was due to rising asset values, repayment of loans, and reluctance to assume new debt.

When debt-to-asset ratios exceed 40 percent, the term "financial stress" is used. As debt loads increase from this point, debt servicing becomes increasingly burdensome to the farm business. The term "severe financial stress" is used to describe farm households having debt-to-asset ratios of 70 percent or more. Generally, these households have difficulty making principal and interest payments from the cash flow generated by the farm operation.

The proportions of farm households in financial stress and severe financial stress were 12 percent and 4 percent, respectively, on December 31, 1988 (Table 2). While this indicates that financial problems continue in the agricultural community, improvements occurred from two years earlier when 18 percent of all farms were in financial stress and 7 percent were in severe financial stress. Throughout the three years of the study, commercial farms have tended to be more highly leveraged and have experienced more financial stress than part-time farms or rural residences. Of the commercial farms, 23 percent were in financial stress on December 31, 1988 compared to 35 percent two years earlier.

Summary

Drought conditions threatened Ohio farms in 1988, but due to higher crop prices and government program assistance, net farm income improved over the previous year. Non-farm income increased during 1988 and continued to be an important source of income for farm families. The financial condition of Ohio farm households improved due to increasing asset values and appeared to be sound for most farm households. Fewer farm foreclosures are anticipated in the near term since a smaller proportion of farm households still are in severe financial stress.

Table 1. Ohio Farm Household Income, 1986-1988

	1988, by Gross Sales			1986	1987	1988
	less than $40,000	$40-100,000	$100,000 or more	All farms	All farms	All farms
Net Farm Income[a]	0	6.3	40.3	5.9	7.3	8.1
Non-Farm Income[a]	30.8	23.4	15.3	21.8	25.2	26.7
Total Household Income[a]	30.8	29.7	55.6	27.7	32.5	34.8
Return on Assets (%)[b]	-2.5	-0.2	5.1	-3.4	-1.3	0.6

[a]$1000/farm.
[b]Return on assets includes only operating returns during previous year. Asset appreciation is not included.

Table 2. Measures of Ohio Farm Household Financial Condition, December 31, 1986-1988.

	1989, by Gross Sales			1986	1987	1988
	less than $40,000	$40-100,000	$100,000 or more	All farms	All farms	All farms
Assets[a]	273	459	772	326	365	396
Liabilities[a]	22	63	148	59	52	52
Equity[a]	251	396	624	267	313	344
Debt/Asset (%)	8	14	19	18	14	13
Share of farms in						
-financial stress (%)[b]	8	15	23	18	16	12
-severe financial stress (%)[c]	2	5	10	7	5	4

[a]$1000/farm.
[b]Financial stress is defined as a debt-to-asset ratio of 0.4 or greater.
[c]Severe financial stress is defined as a debt-to-asset ratio of 0.7 or greater.

Ohio Farm Household Longitudinal Study
Dept. of Ag. Econ. & Rural Soc.
The Ohio State University
2120 Fyffe Road, Room 331
Columbus, Ohio 43210-1099

5614-618057-A421